Canada's Nuclear Regulator

Canadian Nuclear Safety Commission

2010–11 Estimates

Part III – Departmental Performance Report for the period ending March 31, 2011

The Honourable Joe Oliver, P.C., M.P.
Minister of Natural Resources

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Canada

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Section I – CNSC Overview

Message from the President

As the Canadian Nuclear Safety Commission (CNSC) celebrates 65 years as Canada's independent nuclear regulator, I am inspired to reflect on the many milestones we have achieved.

Canada's nuclear activities have grown significantly since 1946 and, as a mature nuclear nation, we have much to be proud of: above all, steady progress over time toward a peaceful and productive nuclear regime, and a safety record second to none in the world.

Last year presented some unexpected challenges, during which our staff responded swiftly, effectively and with transparency. As examples, throughout the first month of the Japan crisis and the concurrent three-week-long Darlington Joint Review Panel (JRP) hearing, all of my colleagues at the CNSC worked tirelessly and often around the clock. Amid these challenges, our team of 850 dedicated employees embraced the CNSC's role to protect the health, safety and security of people and the environment, and to implement Canada's international obligations for the peaceful use of nuclear energy. Meanwhile, staff ensured the safe operation of all nuclear-related facilities and activities in Canada.

This performance report highlights just a few of our most important achievements. Above all, each and every one of our licensed facilities continues to operate safely and in compliance with our regulatory requirements. Some achievements included authorizing Atomic Energy of Canada Limited to resume medical isotope production at Chalk River after 15 months of repairs. We established the Participant Funding Program, which provides members of the public, Aboriginal groups and other stakeholders with financial assistance so they can participate in our regulatory decision-making process. We participated in the Darlington JRP, Canada's first JRP for a new nuclear power plant.

The public is focused on the CNSC these days. Our ability to provide up-to-the-minute information to our stakeholders and federal colleagues has made us the go-to organization for information on nuclear activities and nuclear safety. More than that, our successes last year cemented the CNSC's reputation as a world-class regulator. We are more respected than ever by our peers in government, our international counterparts and nuclear industry stakeholders.

Even as we reflect on our history and achievements, we are determined to meet the regulatory challenges of the future. As Canada's nuclear industry evolves, we will continue to evolve alongside it. And our core commitment to Canadians will not change: we will never compromise safety.

Original signed by

Michael Binder
President

Organizational Overview

Raison d'être and responsibilities

In 1946, the Canadian Parliament passed the *Atomic Energy Control Act* and established the Atomic Energy Control Board (AECB), providing it with the power to regulate all nuclear activities related to the development and use of atomic energy in Canada.

More than half a century later, in May 2000, the *Nuclear Safety and Control Act* (NSCA) came into effect and established the Canadian Nuclear Safety Commission (CNSC) as the successor to the AECB, with the authority and responsibilities to regulate an industry that spans all segments of the nuclear fuel cycle and a wide range of industrial, medical and academic uses of nuclear substances.

The CNSC is an independent regulatory agency and quasi-judicial administrative tribunal, with jurisdiction over all nuclear-related activities and substances in Canada.

Vision

To be the best nuclear regulator in the world.

Mission

Regulating nuclear activities to protect the health, safety and security of Canadians and the environment, and to implement Canada's international commitments on the peaceful use of nuclear energy.

Mandate

Under the NSCA, the CNSC achieves its mission by:

- regulating the development, production, possession, transportation and use of nuclear energy and substances in Canada
- implementing measures to meet international and domestic controls on the non-proliferation of nuclear weapons and nuclear explosive devices
- providing objective scientific, technical and regulatory information about the activities of the CNSC

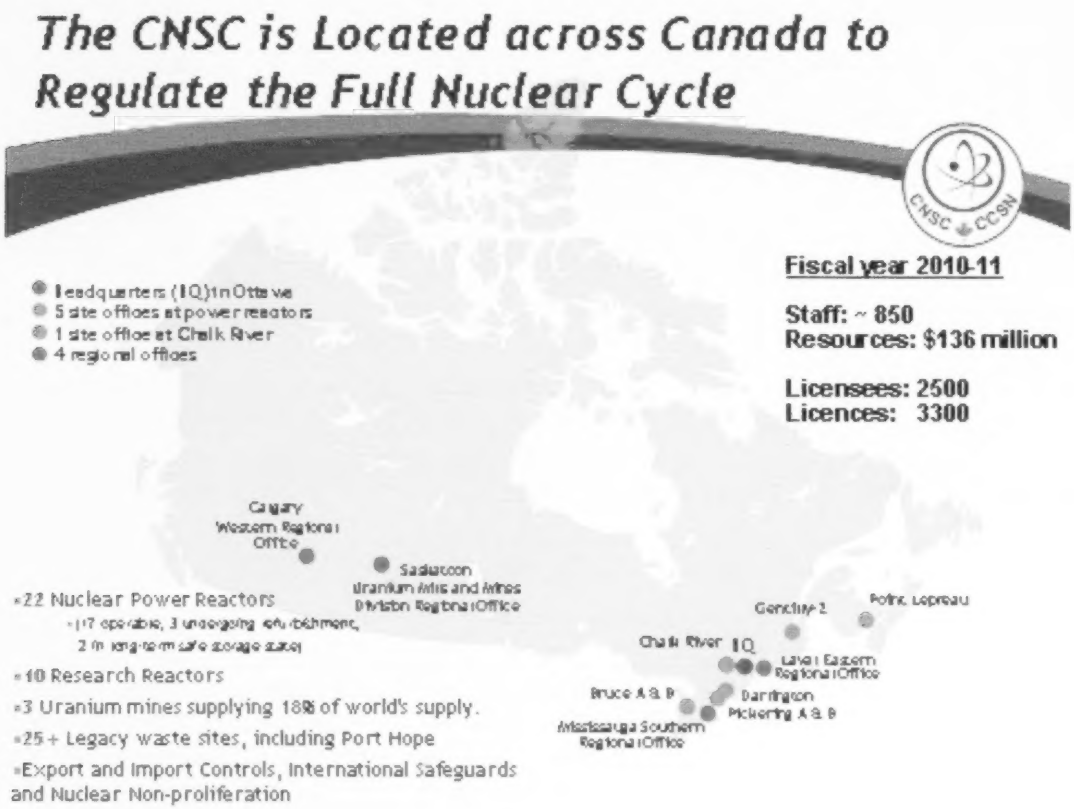
In this context, the CNSC:

- is also responsible for implementing the Government of Canada's December 2007 *Directive to the Canadian Nuclear Safety Commission Regarding the Health of Canadians*, which requires the CNSC – when regulating the production, possession and use of nuclear substances – to consider the health of those Canadians who, for medical purposes, depend on nuclear substances produced by nuclear reactors

- as a Responsible Authority under the *Canadian Environmental Assessment Act* (CEA Act), carries out environmental assessments (EAs) for nuclear projects in accordance with this legislation
- administers the *Nuclear Liability Act* and is Canada's authority with respect to the implementation of nuclear safeguards as set out in the *Agreement Between the Government of Canada and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*
- administers the nuclear non-proliferation provisions of bilateral nuclear cooperation agreements that the Government of Canada enters into with foreign nuclear trade partners

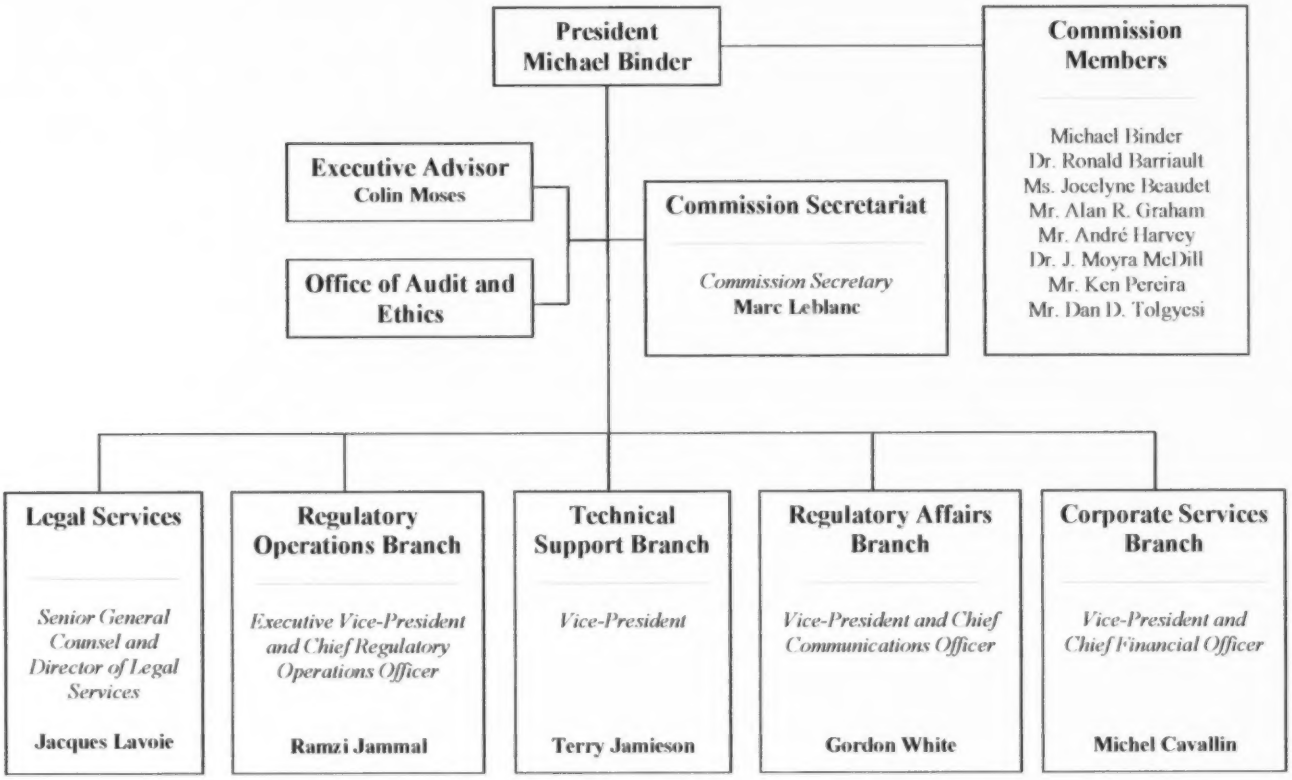
The Commission Tribunal has up to seven permanent members, appointed by the Governor in Council, and is supported by employees across Canada. The CNSC President is the only full-time Commission Tribunal member, while other members may be appointed to serve on a full- or part-time basis. Temporary members can also be appointed by the Governor in Council, as required. Commission Tribunal members are chosen according to their credentials and are independent of any political, governmental, special interest group or industry influences.

As a quasi-judicial administrative tribunal and court of record, the Commission Tribunal makes independent, fair and transparent decisions on the licensing of nuclear-related activities, establishes legally binding regulations, and sets regulatory policy direction on matters relating to health, safety, nuclear security and the environment. For licensing matters related to major nuclear facilities, the Commission Tribunal considers applicant proposals, recommendations of CNSC staff, and stakeholder views before making decisions. In order to promote openness and transparency, the Commission Tribunal conducts its business to the greatest extent possible in public hearings and meetings and, where appropriate, in communities affected by the decision at hand. Commission Tribunal hearings are conducted in a public forum approximately 10 times per year, and decisions are usually released within 30 business days after the closing of the hearings.


The CNSC is Located across Canada to Regulate the Full Nuclear Cycle
Headquarters (HQ) in Ottawa
5 site offices at power reactors
1 site office at Chalk River
4 regional offices
Fiscal year 2010-11
Staff: ~ 850
Resources: $136 million
Licensees: 2500
Licences: 3300
Calgary Western Regional Office
Saskatoon Uranium Mills and Mines Division Regional Office
Gentilly-2
Point Lepreau
Chalk River HQ
Laval Eastern Regional Office
Bruce A & B
Darlington
Pickering A & B
Mississauga Southern Regional Office
•22 Nuclear Power Reactors
•10 Research Reactors
•3 Uranium mines supplying 18% of world's supply.
•25+ Legacy waste sites, including Port Hope
•Export and Import Controls, International Safeguards and Nuclear Non-proliferation

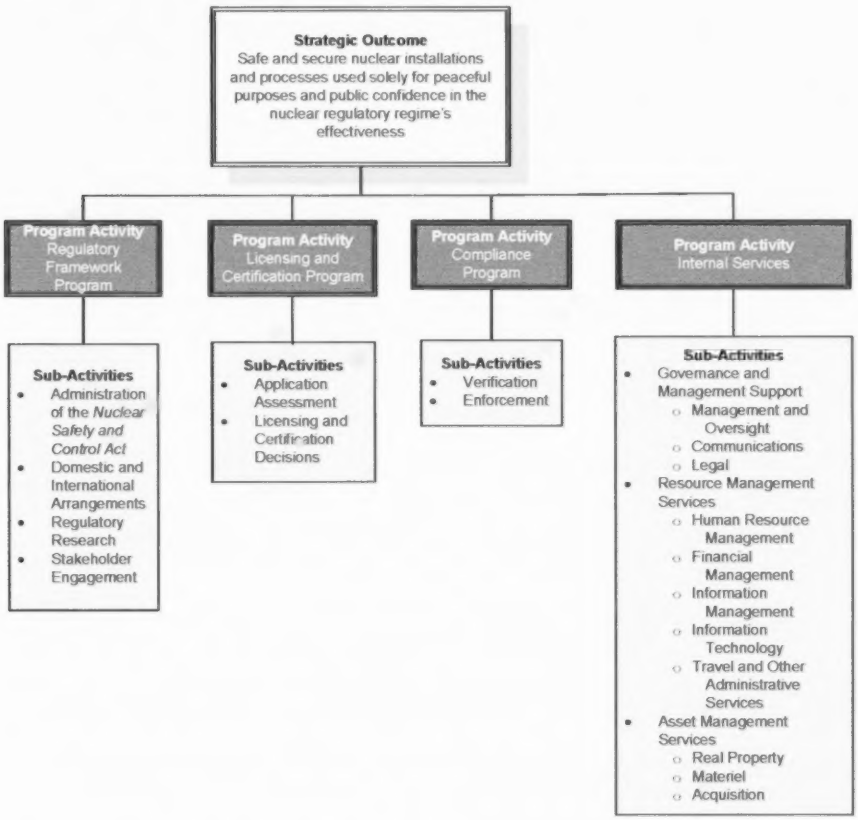
You can view maps showing the location of CNSC-regulated facilities on our Web site.

The following organizational chart provides additional details about the CNSC:



Strategic Outcome and Program Activity Architecture

The following diagram illustrates the CNSC's framework of program activities and program sub-activities, which support its strategic outcome:



Organizational Priorities

The CNSC undertakes work in support of its single strategic outcome. For 2010–11, the CNSC focused its efforts on the following priorities.

- Performed licensing and compliance regulatory oversight for over 2,500 licensees and 3,300 licences across Canada's nuclear sector
- Conducted public hearings for the renewal of licences for Pickering A, Gentilly-2, and Point Lepreau
- Provided pre-licensing reviews for vendors' designs of new nuclear power plants
- Performed regulatory oversight of nuclear power plant refurbishment
- Reviewed the Environmental Assessment Screening Report for the re-licensing of the NRU isotope production and research reactor at Atomic Energy of Canada Limited's Chalk River Laboratories
- Ensured implementation of the approach to environmental assessment as announced in Budget 2010
- Streamlined the licensing process for nuclear power plants
- Strengthened technical assessments and inspection procedures to ensure a consistent approach to the evaluation and inspection of all nuclear facilities and activities
- Developed the CNSC-wide Action Tracking System
- Completed improvements in the Regulatory Framework Program and governance
- Completed the design of the Participant Funding Program as announced in Budget 2010
- Strengthened the CNSC's Research and Evaluation functions
- Focused on becoming an employer of choice
- Continued to enhance internal and external communications

In completing these priorities, the CNSC also maintained its focus on its key ways of doing business: the Core + 4 Cs. In particular, the CNSC focused on its **core** work of licensing and compliance, and undertook specific initiatives presented in "Section II – Analysis of Program Activities by Strategic Outcome".

A brief summary of the "4 Cs" follows:

- **Commitment to ongoing improvements** – "Always room for improvement"

  This priority area includes completing initiatives under the Harmonized Plan, a set of internal improvements that respond to recommendations from past audits, lessons learned and peer reviews such as the International Atomic Energy Agency's (IAEA) Integrated Regulatory Review Service (IRRS). It also includes ensuring that the health of Canadians and the safety of facilities are central considerations in all licensing and compliance activities through initiatives such as isotope contingency planning and the assessment of environmental concerns. This priority, as well, encompasses improvements in corporate services and policies, including those identified through various audits.

Summary of 2010–11 achievements within this priority area:

- Under the umbrella of the Harmonized Plan, the CNSC has completed 26 of the 32 initiatives recommended by the IAEA's IRRS mission in 2009. The remaining six initiatives will be completed in 2011–12.
- CNSC staff also streamlined its licensing process for nuclear power plants by standardizing power reactor operating licences (PROLs) and introducing the Licence *Conditions Handbook* (LCH). The LCH clearly and transparently sets out the compliance verification criteria as well as any CNSC recommendations or guidance for the licensee.
- The CNSC announced its decision to authorize Atomic Energy of Canada Limited (AECL) to resume medical isotope production at Chalk River after 15 months of repairs to the National Research Universal (NRU) reactor. A few months later, the CNSC completed a peer-review workshop on AECL's integrated safety review of the NRU – a form of additional verification, given the complexity of the original work – which concluded that the CNSC staff had identified all of the major issues in the NRU review. This was the first time that a licensee was invited to observe the CNSC internal peer-review process.

▪ **Clarity of our requirements** – "So everyone understands the rules"

This priority area centres on creating broad awareness among licensees, vendors of nuclear technology and proponents of the CNSC's requirements stemming from the NSCA, whether for renewals, refurbishments and life extensions, or new projects (such as design reviews, Joint Review Panels (JRPs), etc.). Its other goals are revitalizing the CNSC's regulatory framework; developing and updating regulatory documents and guidance, with particular attention to guidance for licence applications and environmental assessments; engaging government partners through the Major Projects Management Office (MPMO); and continuing the implementation of the protocol for NRU licence renewal. More information about the MPMO is available on its Web site.

Summary of 2010–11 achievements within this priority area:

- The CNSC hosted or co-hosted various workshops on subjects such as small-scale nuclear reactors and aging management. In one instance, it held its largest-ever Webinar workshop for the public and environmental non-governmental organizations (ENGOs). Fifty participants were at the seminar, with representation from ENGOs, the general public, industry as well as an international representative from the Indonesian nuclear regulator.
- The CNSC also consulted with the public and ENGOs during the development of regulatory documents.

▪ **Capacity for action** – "Ready to respond no matter what the situation"

This priority area focuses on ensuring the CNSC's internal capacity (the right people, at the right time, doing the right things) to respond to changing events, all while fulfilling our mandate. Thus, the CNSC is continuing its efforts to establish itself as a recognized employer

of choice, maintaining a sustainable financial management and internal control framework, strengthening planning, and focusing on information management progress in key areas such as compliance reporting, inspection tracking/resolution and financial management.

Summary of 2010–11 achievements within this priority area:

- In an effort to consolidate regulatory information on action tracking at the CNSC into a single, authoritative source, efforts continued towards the deployment of a CNSC-wide Action Tracking System. This system streamlines the collection and results of the monitoring of all activities associated with licensing, compliance, and regulatory commitments (e.g., inspection results, action items and safety performance assessments).
- The CNSC was recognized as one of the 2011 National Capital Region's Top Employers.
- The CNSC completed the design and construction of a new laboratory infrastructure, allowing the CNSC to provide expert services and advice on instrument calibration and sample analysis to support CNSC licensing and compliance verification activities. These upgrades mean that the CNSC will be better positioned to meet public information obligations and to seek international standards accreditation.
- Manual financial transactions and processes were automated with the introduction of the CNSC Planning, Management and Reporting Systems (CPMRS), yielding greater accuracy and more robust and mature management of financial forecasting and budget management.

- **Communications** – "Accurate, clear, concise and timely"

This priority area aims to strengthen communications with the CNSC's licensees, Canadians, stakeholders, Aboriginal peoples, international counterparts, other government departments and central agencies, in accordance with the CNSC's goal of being the best nuclear regulator in the world and its mandate to disseminate objective scientific, technical and regulatory information to the public about regulatory activities.

Summary of 2010–11 achievements within this priority area:

- The CNSC presented CNSC 101 sessions to provide a comprehensive introduction to the CNSC as a regulatory organization.
- Visitors to the CNSC's Web site in 2010–11 increased by over 35% as a result of the Japan crisis and the Darlington JRP hearings, making the CNSC the go-to organization for Canadians for information on nuclear activities and nuclear safety.
- The CNSC developed an Educational Resources section on its external Web site, for students and educators from grades 2 to 12.
- To celebrate its 65th anniversary, the CNSC shared nuclear-related information via an interactive historical timeline, messages, staff anecdotes and a lobby exhibit.

Risk Analysis

Through its strategic planning exercise in the fall of 2009, the CNSC identified key risks that could impact its objectives for 2010–11. The following is a description of these risks along with the mitigation strategies put in place to address them.

Major project delays

Over the past few years, the CNSC developed and implemented an aggressive recruitment strategy, in anticipation of new major nuclear projects advancing in Canada. The CNSC adjusted its plans to respond to industry projections, including delays in the announcements of new nuclear power plants in Canada, as a result of the economic downturn. If such projects are further delayed or cancelled outright, cost recovery revenues could be significantly affected. The CNSC has initiated contingency plans to adapt to changes without compromising its capacity to meet its regulatory responsibilities.

Sunset funding

Activities of the CNSC that are exempt from fees or otherwise not cost recoverable, such as not-for-profit medical institutions (e.g., hospitals and cancer clinics), educational institutions (e.g., universities) and federal government departments, are covered by government appropriations. Incremental funding of $13.3 million provided in 2006 and 2008 to deal with necessary workloads expired at the end of FY 2010–11. The CNSC is working with the Government to ensure that it continues to resource the CNSC to fulfill its mandate.

Unforeseen demands

An additional challenge that the CNSC faced in 2010–11 was the unforeseen demands which included public concerns over the transport of the steam generators through the Great Lakes (the subject of public hearings in the fall of 2010) and the recent events in Japan, which drew significantly on CNSC resources that were otherwise allocated to planned regulatory activities. The CNSC responded by revising plans and reallocating resources to deal with these events while at the same time ensuring that regulatory oversight was not compromised.

Summary of Performance

2010–11 Financial resources ($ thousands)

Planned spending	Total authorities	Actual spending
131,422	139,638	136,239

The financial resources table above provides a summary of the total planned spending, total authorities and actual spending for the CNSC.

2010–11 Human resources (full-time equivalent - FTE)

Planned	Actual	Difference
850	847	(3)

The human resources table above provides a summary of the total planned and actual human resources for the CNSC.

Performance Summary by Program Activity ($ thousands)

Program activity	2009–10 Actual spending	2010–11 Main estimates	2010–11 Planned spending	2010–11 Total authorities	2010–11 Actual spending	Alignment with Government of Canada outcomes
Regulatory Framework	24,345	19,407	19,407	20,859	21,309	Social Affairs - Safe and Secure Canada
Licensing and Certification	25,045	27,709	27,709	29,974	28,239	
Compliance	39,724	39,868	39,868	42,714	40,725	
Internal Services	49,238	44,438	44,438	46,091	45,966	
Total	**138,352**	**131,422**	**131,422**	**139,638**	**136,239**	

The previous table indicates that total authorities used between 2009–10 ($138.4 million) and 2010–11 ($136.2 million) have decreased by $2.2 million. The main reason for the decrease in expenditures is that the CNSC no longer administers the Technical Standards and Safety Authority (TSSA) on behalf of licensees.

Expenditure Profile – Funding of Operations

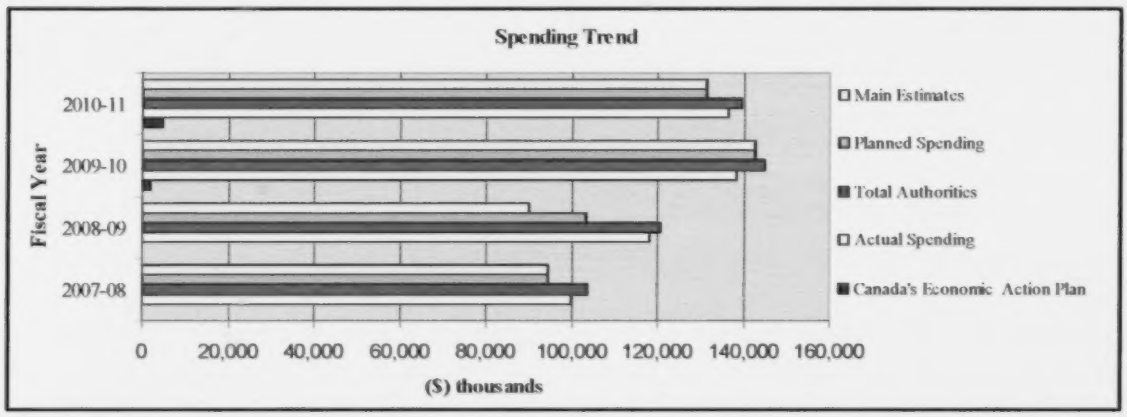
The CNSC is mainly funded from a revenue-spending authority (RSA) (approximately 70%) allowing the cost recovery of activities through fees collected from industry. This authority provides a sustainable and timely funding regime to address the rapid changes in the regulatory oversight workload associated with the Canadian nuclear industry.

The CNSC is also funded through an annual appropriation from Parliament for the remainder of its requirements. The regulations state that some licensees, such as hospitals and universities, are exempt from paying fees as these entities exist for the public good. In addition, fees are not charged for CNSC activities that do not provide a direct benefit to identifiable licensees. These include activities with respect to Canada's international obligations (including the non-proliferation activities), public responsibilities such as emergency management and public information programs, and updating of the NSCA and associated regulations as appropriate.

In 2010–11, $136.2 million ($138.4 million in 2009–10) of the total parliamentary and revenue-spending authorities were used to fund the CNSC's cost of operations, leaving $1.3 million ($4.8 million in 2009–10) in unused authority.

Cost of operations

In the 2010–11 financial statements, the total cost of operations was $146.9 million ($143.9 million in 2009–10). A total of $100.8 million ($97.4 million in 2009–10) in fees was recovered from fee-paying licensees, leaving the CNSC with a net cost of operations of $46.2 million ($46.5 million in 2009–10) to be funded by the annual parliamentary appropriations.



The figure above illustrates the CNSC's spending trend from 2007–08 to 2010–11.

Canada's Economic Action Plan (CEAP)

Through Budget 2009, $250 million was made available to departments and agencies over two fiscal years to upgrade deferred maintenance of federal laboratories. The focus was on laboratories that contribute to core regulatory responsibilities of the government, such as health and safety.

The CNSC was allocated a total of $3 million under Canada's Economic Action Plan (CEAP) to upgrade its laboratory capabilities, bringing them up to international standards. In 2010–11, the design and construction of an upgraded laboratory infrastructure was completed and, consequently, the CNSC Laboratory moved from its former location at Tunney's Pasture to the new location on Limebank Road. During the past year, the CNSC was also able to complete the upgrade with the purchase and installation of new equipment for instrument calibration and analytical services. In addition, the staff strength was augmented with three specialists.

The CNSC will seek laboratory accreditation in accordance with ISO-17025, complete the commissioning of newly purchased instruments, and finalize procurement of deferred equipment. The laboratory will continue to carry out instrument calibration in support of inspection activities, complete sampling for nuclear substances, support training at internal national and international levels, and conduct research and development activities in support of the CNSC research program. Nationally, the CNSC laboratory will be cooperating with the chemical, biological, radiological and nuclear (CBRN) Research and Technology Initiative (CRTI), universities, etc., and, internationally, with the Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA) network of the IAEA.

Estimates by Vote

For information on the CNSC's Votes and/or statutory expenditures, see the 2010–11 Public Accounts of Canada (Volume II) publication. An electronic version of the Public Accounts is available on the Public Works and Government Services Canada Web site.

Section II – Analysis of Program Activities by Strategic Outcome

Strategic Outcome

The Canadian Nuclear Safety Commission has a single strategic outcome: safe and secure nuclear installations and processes used solely for peaceful purposes and public confidence in the nuclear regulatory regime's effectiveness. To support this outcome, the CNSC has four program activities: regulatory framework, licensing and certification, compliance, and internal services.

The following table summarizes the links between the CNSC's strategic outcome, program activities and 2010–11 performance. To better understand the ratings attributed to performance throughout this section, a brief legend precedes the table.

Performance/Priority Status Legend

All ratings represent the percentage achieved of the expected level of performance (as evidenced by the indicator and target or planned activities and outputs) for the expected result or priority identified in the corresponding *Report on Plans and Priorities* (RPP) during the fiscal year.

Exceeded: More than 100 percent

Met all: 100 percent

Mostly met: 80 to 99 percent

Somewhat met: 60 to 79 percent

Not met: Less than 60 percent

Performance indicators	Targets	2010–11 Performance
Compliance rating of licensees	Satisfactory or better in all safety areas	**Met all** Licensees are required to implement programs that make adequate provisions for the protection of the environment, the health and safety of persons, the maintenance of national security and the measures required to implement Canada's international obligations. This means that licensees have primary responsibility for the safe operation of nuclear power plants. The results in 2010–11 were as follows: • All nuclear power plants operated safely in Canada. • All nuclear power plant licensees complied with regulatory requirements.

Performance indicators	Targets	2010–11 Performance
		• There were no serious process failures at any nuclear power plant.[1] • All environmental emissions from nuclear power plants were below regulatory limits. • All nuclear power plant licensees complied with licence conditions concerning Canada's international obligations for the peaceful use of nuclear energy. The *2010 Annual CNSC Staff Report on the Safety Performance of Canadian Nuclear Power Plants* indicated that the safety and control measures implemented by licensees were adequate and sufficiently effective. The integrated safety ratings for all nuclear power plants in Canada were "Satisfactory" or better.
Number of radiation exposures over the allowable limits	Zero reported cases	**Met all** The collective radiation dose is an indicator of licensees' efforts to maintain radiation doses "as low as reasonably achievable" (ALARA). It is worth noting that these efforts led to the following results in 2010–11: • No members of the public received a radiation dose from nuclear power plants in excess of regulatory limits. • No nuclear power plant workers were confirmed as having received a radiation dose in excess of regulatory limits.

[1] Serious process failure is a failure of a process system, component or structure:
(a) that leads to a systematic fuel failure or a significant release from the nuclear power plant, or
(b) that could lead to a systematic fuel failure or a significant release in the absence of action by any special safety system.

Performance indicators	Targets	2010–11 Performance
Positive IAEA safeguards conclusion	Positive annual attestation of safeguards	**Met all** In 2010, Canada was once again successful in attaining a positive safeguards conclusion from the IAEA, providing the highest possible level of assurance that all nuclear material in the country remained in peaceful activities[1]. This conclusion is the ultimate indication of the CNSC's success in implementing the requirements of Canada's international safeguards commitments.

Performance Summary and Analysis of Strategic Outcome

- As part of the CNSC's day-to-day regulatory oversight of nuclear licences in Canada, the organization conducted approximately 2,000 risk-based inspections, assessed over 750 licence applications, and issued over 550 renewals and 25 amendments.

- The Darlington Joint Review Panel (JRP) hearings also garnered much attention as they started during the early stages of the nuclear-related events in Japan. These hearings included the first environmental assessment under the *Canadian Environmental Assessment Act* for a new nuclear power plant in Canada. It was also the first time a federal panel conducted an environmental assessment and licence application review for a major nuclear project under a single process. Preparing for and participating in the JRP hearing was a major undertaking for the CNSC. In addition to completing the review of Ontario Power Generation's (OPG) environmental impact statement and application for a licence to prepare site, the CNSC had to prepare for more than 150 hours of intervenor presentations; review more than 20,000 pages of information from OPG, federal departments and agencies and other intervenors; and hear from 284 registered intervenors.

- The CNSC responded with speed, diligence and commitment to the earthquake and tsunami in Japan and the resulting damage to the Fukushima Daiichi nuclear power plant, by setting in motion its Emergency Operations Centre, at times on a 24/7 basis and engaging a multi-disciplinary team of technical experts and communications specialists to keep Canadians apprised of events and risks. The CNSC was in constant communication with other departments, such as Health Canada and the Department of Foreign Affairs and International Trade, to provide technical advice on the safety and health of Canadians in Japan.

- Our Web site became and continues to be a site of choice in Canada for nuclear information. During the early days following the earthquake, thousands of people

[1] IAEA conclusions are based on calendar years and therefore cover a slightly different period than the CNSC's fiscal year.

visited the Web site; the daily number peaked at more than 10,000 visitors on March 16. We provided media interviews to answer questions and offer insights into the Japan situation. We deployed a nuclear expert to the IAEA fact-finding team in Vienna and maintained active liaison with other experts in nuclear regulatory agencies around the world. A special Japan section was posted on our Web site.

- In response to the Fukushima incident, the CNSC issued an order to all major nuclear facilities in Canada to review the lessons learned from the Japanese earthquake. All facilities were ordered to re-examine their safety cases (with a focus on external hazards, measures to prevent or mitigate severe accidents, and emergency preparedness), take immediate action where necessary, and report on any long-term measures needed to address significant issues.

- The CNSC also established an internal task force to evaluate the operational, technical and regulatory implications of the events in Japan to Canadian nuclear power plants. The task force will make both long- and short-term recommendations about any design modifications or improvements to emergency response capabilities that are needed at Canadian plants and surrounding jurisdictions. It will also recommend any necessary changes to the CNSC's regulatory requirements, inspection programs and policies for existing and new nuclear power plants and will inform external task forces and working groups.

- In April 2010, the CNSC received an application from Bruce Power to transport 16 decommissioned steam generators to Sweden by ship through the Great Lakes and St. Lawrence Seaway. Due to the size of the steam generators, licensees needed to apply for a special transportation arrangement licence. The steam generators were to be decontaminated and recycled in Sweden and the residual contaminated materials returned to the Bruce site for management.

- In light of public concern over the transport of nuclear-related substances – and to ensure the most transparent possible presentation and analysis of information relating to health, safety and risk – Bruce Power's application was heard by the full Commission Tribunal, even though such matters are usually handled by officers designated by the Tribunal.

- The Commission Tribunal reviewed the application in a public hearing in September 2010, considering CNSC staff recommendations and submissions from Bruce Power, as well as submissions from 77 intervenors on issues of packaging and transportation, the environmental impact of the activity, as well as the radiation protection, emergency and security measures proposed by Bruce Power.

- The Commission Tribunal concluded that there was no significant safety issue associated with the proposed shipment. In February 2011, the Commission Tribunal issued a licence and certificate to Bruce Power for the transport of the steam generators to Sweden. The Commission Tribunal, when rendering its decision, was satisfied that: the transport could be completed safely and that risk to persons and the

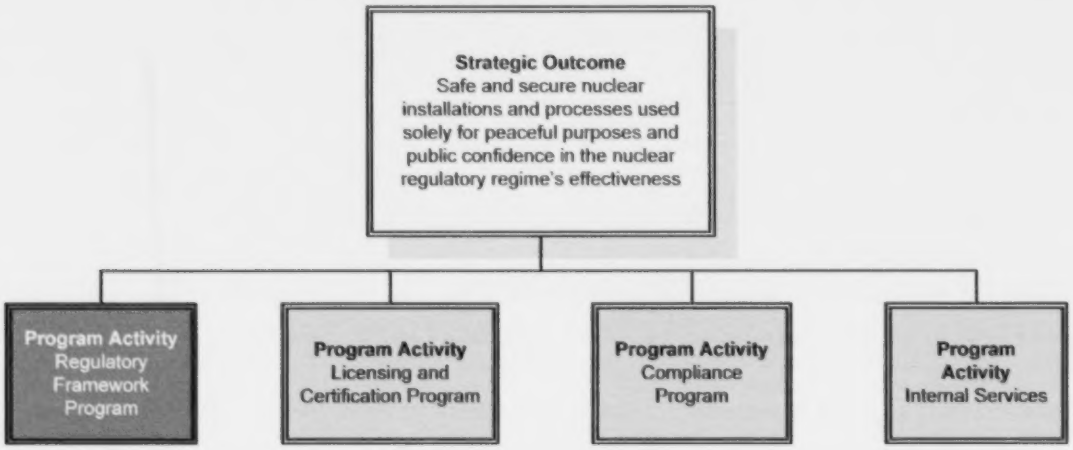
environment were negligible, the shipment met all Canadian and international regulations and requirements, and Bruce Power was qualified to carry out the project.

- The CNSC continued to strengthen its overall regulatory framework and develop application guidance for new nuclear power plants to ensure readiness should provinces choose to build new nuclear power plants.

- On the international front, the CNSC continued to participate in the activities of the IAEA and of the OECD-sponsored Nuclear Energy Agency. These activities provide opportunities to share best practices in nuclear safety and strengthen Canada's commitments to non-proliferation and the peaceful use of nuclear materials. The CNSC continually engages in discussions with international nuclear regulators to exchange lessons learned from their compliance programs and develop best practices. Compliance programs from other nuclear regulators (such as the United States' Nuclear Regulatory Commission) are also regularly considered to gauge potential effectiveness. Nationally, the CNSC enters into arrangements with provincial authorities to effectively facilitate cooperation between regulators. A good example of this collaboration is the coordinated approach to the regulation of uranium mines and mills in Saskatchewan, whereby, through a memorandum of understanding, federal and provincial authorities work together to minimize duplication while ensuring that all regulatory requirements are verified.

The following section describes the CNSC's program activities and identifies the results achieved and lessons learned, including performance indicators and targets. This section also details the benefits for Canadians and includes the financial and non-financial resources that were dedicated to each activity for fiscal year 2010–11.

Program Activity: Regulatory Framework


Strategic Outcome
Safe and secure nuclear installations and processes used solely for peaceful purposes and public confidence in the nuclear regulatory regime's effectiveness
Program Activity
Regulatory Framework Program
Program Activity
Licensing and Certification Program
Program Activity
Compliance Program
Program Activity
Internal Services

Expected results: A clear and practical regulatory framework

The Regulatory Framework Program is in place to ensure that Canadians – and licensees, in particular – have a clear and practical regulatory framework for the nuclear industry in Canada.

Funds are used primarily to develop and make amendments to elements of the regulatory framework (e.g., the *Nuclear Safety and Control Act*, its regulations, regulatory documents (such as policies, standards and guides), the Safeguards Agreement and Additional Protocol between Canada and the IAEA, and Canada's bilateral nuclear cooperation agreements. The CNSC regulatory framework provides the basis for the regulatory effort that helps protect the health, safety, security and environment for Canadians, while implementing Canada's international commitments on the non-proliferation of nuclear weapons and the peaceful use of nuclear energy. The regulatory effort includes stakeholder engagement and the conduct of regulatory research projects that generate objective, scientific and technical information that addresses current and projected regulatory needs and closes gaps to better support regulatory decision-making and the dissemination of objective information to the public.

The CNSC also administers the *Nuclear Liability Act* (NLA) and, as a Responsible Authority under the *Canadian Environmental Assessment Act* (CEA Act), carries out environmental assessments for nuclear projects in accordance with this legislation.

The following tables align the regulatory framework activity expected results with their corresponding targets and performance status.

Program Activity: **Regulatory Framework**					
2010–11 Financial resources ($ thousands)			**2010–11 Human resources (full-time equivalents (FTEs))**		
Planned spending	**Total authorities**	**Actual spending**	**Planned**	**Actual**	**Difference**
19,407	20,859	21,309	120	125	5

Performance indicators	**Targets**	**Performance status and summary**
Satisfaction levels of stakeholders across key performance areas	Increasing trend in survey results over a three-year period, stable thereafter	**Not applicable** Due to Government of Canada directive not to proceed with any polling activities.
Number of legal challenges to the regulatory framework	Minimal/ declining number of challenges and/or high success rate of defending challenges	**Met all** By decision dated September 22, 2010, the Federal Court dismissed the challenge that had been made of a decision of the Commission Tribunal in the matter of a licence for a uranium mining project located at McClean Lake, Saskatchewan. The Court upheld the Commission Tribunal's implementation of the regulatory framework, and the compliance of that framework with the constitutional obligation on the Crown to consult with Aboriginal groups

Performance indicators	Targets	Performance status and summary
		when their rights may be at stake. An appeal of this decision was filed on October 22, 2010, and the Commission Tribunal is participating in the appeal, which will likely be heard during 2011. On March 4, 2011, a legal challenge was filed against the Commission Tribunal's decisions to authorize the export, packaging and transport of 16 used steam generators from the Bruce A Nuclear Generating Station to Sweden. The two applications for judicial review will be the subject of hearings, likely during 2011 or early 2012.

Performance Summary and Analysis of Program Activity

- The CNSC is highly committed to protecting Canadians by developing a regulatory framework that assures the safest possible operations for nuclear power plants (NPPs). Following the events at Japan's Fukushima NPP site, we began the process of studying lessons learned to see how they could apply to the regulatory framework for NPPs.

- The Commission Tribunal held nine meetings and 11 public hearings, in which 489 intervenors participated, and conducted 28 abridged hearings. The CNSC also jointly conducted the Darlington JRP with the CEA Agency. This JRP, Ontario's first, involved the first environmental assessment for a new nuclear power plant in Canada, since the *Canadian Environmental Assessment Act* came into effect in the early 1990s – when current nuclear power plants were already operational or undergoing licensing approvals.

- The CNSC received authority via Budget 2010 to establish a Participant Funding Program (PFP) to give members of the public, Aboriginal groups and other stakeholders the opportunity to request funding in support of their participation in the CNSC's regulatory decision-making process. The CNSC announced that it was providing its first participant

funding during the fiscal year – allotting up to a total of $75,000 – to help members of the public, Aboriginal groups, and other interested stakeholders participate in the licence renewal process of the Chalk River Laboratories.

- In 2010–11, CNSC staff undertook several research projects to better assess and improve regulatory insight regarding nuclear waste such as an environmental investigation at over 25 nuclear legacy sites, strengthening of the framework for the regulation of tritium releases, and establishment of a regulatory framework for deep geological disposal of radioactive waste, to name a few. The research projects are aligned with the CNSC's mandate to protect the health and safety of Canadians and the environment, as well as to ensure that CNSC staff have the most recent information and best science to support regulatory actions. More information on these, and other projects, can be found on our Web site.

- On the stakeholder engagement front, the CNSC participated with specific federal government partners through the Major Projects Management Office (MPMO) to ensure that the environmental assessments and regulatory review for six current nuclear projects are carried out as effectively and efficiently as possible. The CNSC has participated actively in the development of the Government of Canada's approach to consulting with Aboriginal groups for major resource projects, in compliance with the *Cabinet Directive on Improving the Performance of the Regulatory System for Major Resource Projects* issued in August 2007.

- The CNSC takes care to ensure that all its licensing decisions under the NSCA, as well as the environmental assessment decisions under the CEA Act, uphold the Crown's obligation to consider Aboriginal peoples' potential or established Aboriginal or treaty rights, pursuant to section 35 of *The Constitution Act, 1982*.

- Throughout 2010–11, the CNSC's community relations efforts, among others, included the following:

    - The CNSC held a successful open house to publicly present the results of its Tritium Studies Project. The Tritium Studies Project began in 2007 after the Commission Tribunal asked CNSC staff to initiate research on tritium releases in Canada and best practices of tritium processing facilities around the world.
    - The CNSC held public information sessions about its role and the licensing of nuclear power plants in the County of Northern Lights in Alberta. Sessions were held in Manning and Peace River, and the CNSC also met with the towns' municipal councils.
    - The CNSC's Executive Vice-President and Chief Regulatory Operations Officer gave a presentation to Owen Sound City Council about the transportation of steam generators from the Bruce Power nuclear site to Sweden for recycling. Similar presentations were made to the Mayor of St. Catherines and the City of Montreal.
    - The Government of Nunavut held three regional public forums in Iqaluit, Nunavut, on uranium mining. The forums included an open house and forum with panelists that included CNSC representatives who discussed the CNSC's role in regulating uranium mining in Canada, the licensing process and the health effects of uranium mining and milling.

- The CNSC met with the Township of Ignace to discuss its regulatory role regarding the Nuclear Waste Management Organization's project for a repository for used nuclear fuel.
- The CNSC hosted community outreach meetings in four Labrador communities, to describe its role in regulating uranium mining.

All CNSC presentations are posted online at nuclearsafety.gc.ca.

- On the International front in 2010, Canada was once again successful in attaining a positive safeguards conclusion from the IAEA, providing the highest possible level of assurance that all nuclear material in the country remained for peaceful use. Out of 175 IAEA Member States, Canada is one of only 52 countries that received this result. This conclusion confirms the CNSC's success in implementing the requirements of Canada's international safeguards commitments.

- In FY 2010–11, the CNSC completed 16 regulatory framework initiatives, including finalizing amendments to the *Class II Nuclear Facilities and Prescribed Equipment Regulations* and to the *Nuclear Non-Proliferation and Import and Export Control Regulations*.

- Other regulatory framework initiatives completed in FY 2010–11 include documents published to provide:

  - clear regulatory requirements for physical protection systems and devices at high-security sites
  - clear requirements and guidance regarding nuclear criticality safety
  - requirements and guidance for accounting and reporting of nuclear material
  - information on the CNSC import and export control program for risk-significant radioactive sources
  - updated information on the licensing process for new uranium mines and mills in Canada
  - clarified application requirements to make the application process (application guides) more efficient
  - guidance on designing a nuclear medicine room or a nuclear substance laboratory
  - guidance on designing and implementing a bioassay monitoring program

- During the year, the CNSC also published and completed the consultation on a discussion paper for the management of uranium mine waste rock and mill tailings. Taking the feedback received from industry, academics and the public, a regulatory document on this matter is being developed in FY 2011–12.

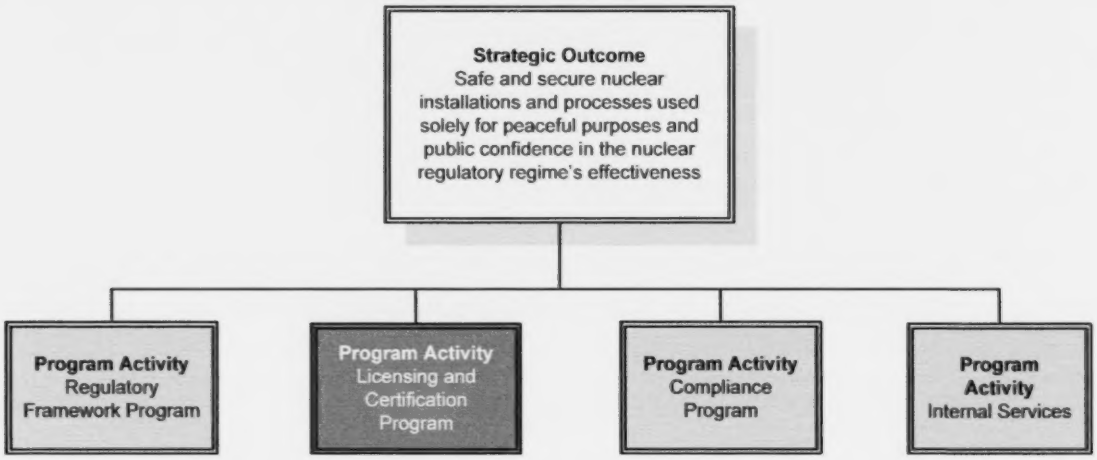
Lessons Learned

Following the events at Japan's Fukushima nuclear plant, the CNSC began the process of studying lessons learned to understand these events' relevance for existing and future new Canadian nuclear power plants. Complete details on CNSC actions are provided in the section on Performance Summary of the Strategic Outcome.

Regulatory Framework – The Bottom Line

The Regulatory Framework Program Activity results in a continuously reviewed, modern, transparent regulatory framework that is open and accessible to licensees and stakeholders, and that is focused on nuclear safety and security, and on effectively implementing relevant international obligations.
No compromise.

Program Activity: Licensing and Certification


Strategic Outcome
Safe and secure nuclear installations and processes used solely for peaceful purposes and public confidence in the nuclear regulatory regime's effectiveness
Program Activity
Regulatory Framework Program
Program Activity
Licensing and Certification Program
Program Activity
Compliance Program
Program Activity
Internal Services

Program Activity Description

Expected results: Individuals and organizations that operate safely and conform to safeguards and non-proliferation requirements.

The Licensing and Certification Program is in place to issue licences or certify persons, organizations, and prescribed equipment for conducting nuclear-related activities in Canada.

With this program activity's funding, the CNSC obtains evidence of the applicant licensees' ability to operate safely and comply with all regulatory requirements.

The CNSC undertakes this work to obtain assurance that nuclear activities and facilities in Canada are managed with adequate provision for the protection of health, safety, security and the environment and the fulfillment of international commitments regarding the peaceful use of nuclear energy.

The following tables align the Licensing and Certification expected results with their corresponding targets and performance status.

Program Activity: **Licensing and Certification**					
2010–11 Financial resources ($ thousands)			**2010–11 Human resources (full-time equivalents (FTEs))**		
Planned spending	**Total authorities**	**Actual spending**	**Planned**	**Actual**	**Difference**
27,709	29,974	28,239	215	215	0

Performance indicators	Targets	Performance status and summary
Application completeness notifications and licensing decisions are issued within timelines defined by external performance standards	All timelines, per external performance standards, were met.	**Met all** For details, see the External Performance Standards table in "Section IV: Other Items of Interest".

Performance Summary and Analysis of Program Activity

- In support of the expected result of individuals and organizations that operate safely and conform to safeguards and non-proliferation requirements, the CNSC assessed applications, and issued and amended a number of licences and certificates pertaining to everything from uranium mines and mills, to transport licences, to imports or exports of nuclear material.

- In 2010–11, the CNSC made nearly 2,300 licensing decisions; these included issuing 176 new and renewed 555 licences for nuclear substances. In addition, 441 export and 80 import licences were issued pursuant to the *Nuclear Non-Proliferation Import and Export Control Regulations*, while 187 export licences were issued for risk-significant radioactive sources.

- During 2010–11, the CNSC issued 205 personnel certifications: 60 new certifications and 55 certification renewals for personnel at nuclear reactor facilities, and 90 new certifications to Exposure Device Operators.

- The CNSC also provides the optional service of pre-project design reviews in assessing a vendor's design for a nuclear power plant or small reactor. The review is intended to be undertaken by a reactor vendor before an applicant submits a licence application to the CNSC.

- The CNSC undertook the following pre-project design reviews during the reporting period:

  AECL – EC 6 (Enhanced CANDU 6):
  - Phase 2 to be completed in early 2012.

  AECL – ACR-1000 (Advanced CANDU Reactor):
  - **Phases 1–3 have been completed.**

  ATEMA – ATMEA1:
  - **Phase 1 to be completed in early 2012.**

  AREVA – EPR:
  - Phase 1 review is currently on hold, at the request of the vendor.

Executive summaries for the completion of each phase can be found on our Web site.

- In May 2009, during a planned NRU reactor shutdown, Atomic Energy of Canada Limited (AECL) confirmed that the reactor vessel had a small leak of heavy water. AECL determined that the leak was due to corrosion of the reactor vessel. The discovery was followed by prolonged shutdown of the NRU reactor and a 15-month vessel repair project.

- CNSC staff worked diligently to determine exactly what was required to support a recommendation for return to service for the NRU reactor. This included determining all the applicable regulatory requirements, expectations on how to meet those requirements and additional information that AECL would have to provide to demonstrate that the NRU reactor was safe for continued operations.

- To add clarity and transparency to the process, the CNSC and AECL signed an NRU reactor restart protocol that contained the CNSC's requirements and expectations. In addition, a protocol was established to prepare the necessary information for the CNSC to assess the continued operation of the NRU reactor beyond the current licence period. The NRU reactor licence expires October 31, 2011.

- Following a public hearing on July 5, 2010, the Commission Tribunal authorized AECL to resume the operation of the NRU reactor with conditions. The first batch of medical isotopes since the May 2009 shutdown was shipped by AECL in August 2010.

- To ensure the NRU reactor's fitness for service, AECL is required, in addition to conducting regularly scheduled maintenance shutdowns, to inspect it at least annually, continue optimizing the corrosion mitigation measures, ensure that the condition of all systems, structures and components important to safety are acceptable, and correct the organizational causes that contributed to the event. CNSC staff have confirmed that, to date, actions are being completed in accordance with plans.

- The National Research Universal Reactor Long-term Management Project (NRU Project) was the first EA to be initiated and completed through a streamlined EA process. The

Commission Tribunal published its decision on March 18, 2011, accepting the conclusions of the EA Screening Report and fulfilling the requirements of the CEA Act. The CNSC identified a number of follow-up activities, which will be monitored and completed through the CNSC compliance process.

- The NRU Project underwent a sequential EA and licensing process; therefore, the Commission Tribunal will conduct public hearings in June and October 2011 to consider the renewal of the operating licence for Chalk River Laboratories.

- Five EAs out of the 26 active ones were completed. The CNSC initiated a number of new EAs in line with the Commission Tribunal's decision on the streamlined screening-level EA process in September 2008.

- The first integrated EA and licensing process is nearing completion for the Cigar Lake Water Inflow Management Project. The Proposed EA Screening Report and licensing actions will be considered by the Commission Tribunal through an abridged hearing, allowing written interventions, anticipated for June 2011. CNSC staff will report on the effectiveness of the new EA process to the Commission Tribunal in September 2011.

- The CNSC's 2010–11 effort included regulatory oversight of nuclear power plant operations, refurbishments, and licence renewals. CNSC staff also streamlined their licensing process for nuclear power plants by standardizing power reactor operating licences (PROL) and introducing the *Licence Conditions Handbook* (LCH). The LCH clearly and transparently sets out the compliance verification criteria as well as any CNSC recommendations or guidance for the licensee.

- The following regulatory activities are of particular note.

Ontario

Bruce

- Refurbishment of Bruce A Units 1 and 2 continued. In Unit 2 (the lead unit), calandria tubes, fuel channels and feeders have been installed and fuel has been loaded. There is an approximate three-month lag time between the units.
- Plans for the possible refurbishment of Units 3–8 are currently under discussion.
- CNSC staff issued two revisions of Bruce A and B licence conditions handbooks.

Pickering

- Ontario Power Generation (OPG) successfully completed the safe storage project for Units 2 and 3 at the Pickering A site. Units 2 and 3 have been defuelled, and the moderator and primary heat transport systems have been drained and dried. The containment boundary was moved to the reactor building bulkheads, containment penetrations were cut and capped, and systems were electrically de-energized. Safe storage ensures the units are kept in a safe, non-operating, environmentally sound condition.

- OPG announced that all units at Pickering A and B will be shut down permanently by the end of 2020. OPG intends to invest $300 million at Pickering B to ensure continued safe and reliable operation for the remaining operating period. OPG submitted a continued operations plan, which was reviewed by CNSC staff prior to presentation to the Commission Tribunal in March 2011. The plan is then to leave all units in a safe storage state for approximately 30 years before the decommissioning activities are started.
- A public hearing was held on June 10, 2010. The Commission Tribunal subsequently renewed the Pickering A licence for three years, from July 1, 2010 to June 30, 2013.
- There was one amendment to the nuclear power reactor operating licence for the Pickering A Nuclear Generating Station.
- There were five amendments to the nuclear power reactor operating licence for the Pickering B Nuclear Generating Station.
- CNSC staff issued four revisions to the Pickering A Licence Conditions Handbook.

Darlington

- OPG continued the planning of its refurbishment project that is expected to start in late 2016.
- CNSC staff accepted the Darlington integrated safety review (ISR) basis document.
- There were five amendments to the nuclear power reactor operating licence for the Darlington Nuclear Generating Station.

Quebec

Gentilly-2

- As part of the Gentilly-2 refurbishment project, Hydro-Québec submitted the documents related to the ISR required by regulatory document RD-360, *Life Extension of Nuclear Power Plants*. CNSC staff performed a detailed review of the ISR basis document and completed a preliminary review of the 16 ISR safety factor reports for Gentilly-2.
- Hydro-Québec applied to renew and combine its operating licences for the Gentilly-2 nuclear reactor and for its waste management facility in Bécancour, Québec, for a period of five years. Hydro-Québec formally announced postponement of the start of refurbishing work at the Gentilly-2 facility to 2012. Subsequently, Hydro-Québec requested that the CNSC postpone Day One of its public hearing (initially set for August 2010) and also requested a six-month extension of its current operating licences. Day One of the public hearing was held in December 2010 and resulted in a decision for a six-month extension of both licences. Day Two of the public hearing was held in April 2011. The Commission Tribunal subsequently granted a five-year combined licence renewal for the nuclear reactor and the waste management facility.

New Brunswick

Point Lepreau

- New Brunswick Power continued progress on its refurbishment project at Point Lepreau, and the station remains in a refurbishment outage.

- A public hearing was held on January 19, 2011, to consider renewal of the power reactor operating licence issued to New Brunswick Power Nuclear for its Point Lepreau Nuclear Generating Station.
- The Commission Tribunal subsequently renewed the Point Lepreau licence (effective April 6, 2011, until June 30, 2012). The licence includes conditions directly related to the Point Lepreau refurbishment project. The licensee is required to provide a completion assurance report on the installation and commissioning of the refurbishment improvements and modifications listed in the operating licence. In addition, the licensee is required to obtain Commission Tribunal approval before reloading fuel into the reactor core and proceeding with the reactor's restart.

- Radioactive waste is produced at all stages of the nuclear fuel cycle, from uranium mining and nuclear power generation to nuclear medicine and other industrial uses. Because of the wide variety of applications, the amounts, types and even physical forms of radioactive wastes vary considerably. Some wastes can remain radioactive for thousands of years, while others may require storage for only a short period before they are disposed of by conventional means. In all cases, the CNSC regulates the safe storage and monitoring of all waste until it poses no threat.

- The CNSC focused on some major waste-related licensing projects in 2010–11: the Cameco Corporation Vision 2010 decommissioning project, the Deep Geologic Repository, and the Adaptive Phased Management.

Lessons Learned

While the CNSC must maintain a strong, competent and independent ability to assess applications and make determinations about the qualifications of applicants and the quality of their programs, the organization is improving the coordination of regulatory activities with other federal regulators involved in the licensing of new major nuclear facilities through its participation in the Government of Canada's Major Projects Management Office (MPMO). The introduction of the dashboard and project agreements has helped to streamline processes and reduce redundancy.

The CNSC will continue to work with its MPMO partners to coordinate regulatory activities related to major nuclear projects, and examine administrative, regulatory and legislative options to advance the principles of the MPMO.

Licensing and Certification – The Bottom Line

Licences and certificates will only be issued once the CNSC has determined that licensees are positioned to conduct their activities with the utmost attention to health, safety, security, protection of the environment and the requirements of relevant international obligations. No compromise.

Program Activity: Compliance

Strategic Outcome
Safe and secure nuclear installations and processes used solely for peaceful purposes and public confidence in the nuclear regulatory regime's effectiveness
Program Activity
Regulatory Framework Program
Program Activity
Licensing and Certification Program
Program Activity
Compliance Program
Program Activity
Internal Services

Program Activity Description

Expected results: A high level of compliance by licensees with the regulatory framework.

The Compliance Program is in place to ensure that CNSC licensees exhibit a high level of compliance with the CNSC's regulatory framework. This program enables the CNSC to provide regulatory assurance to Canadians of the continuing compliance and safety performance of licensees.

This program activity's funding is used for the promotion of compliance, safety culture and common safety values, compliance inspections, and enforcement actions.

The following tables align the Compliance expected results with their corresponding targets and performance status.

Program Activity: **Compliance**					
2010–11 Financial resources ($ thousands)			**2010–11 Human resources (full-time equivalents (FTEs))**		
Planned spending	**Total authorities**	**Actual spending**	**Planned**	**Actual**	**Difference**
39,868	42,714	40,725	273	274	1

Performance indicators	Targets	Performance status and summary
Degree/level of reconciliation between Canada and other countries of nuclear inventories subject to bilateral nuclear cooperation agreements (NCAs).	Targets set on an annual work planning basis met.	**Met all** All notification, accounting and reporting procedures as required to implement and comply with the non-proliferation provisions of Canada's bilateral NCAs and administrative arrangements (AAs) continue to be maintained and administered on an ongoing basis.
Compliance activity reports are issued to licensees within timelines defined by external performance standards	All timelines per external performance standards were met.	**Mostly met** For details, see the External Performance Standards table in "Section III: Supplementary Information".
Adherence with Sealed Source Tracking requirements.	All on time, 100% match with registry.	**Met all** All sealed sources accounted for. Full-year totals (number of additions to the Sealed Source Registry): Sealed source tracking transactions – 4653 Sealed sources involved – 7987 Licences involved – 492
Nuclear material ledger reconciliations between the CNSC and licensees.	Identical inventory records or reconciliation of nuclear material.	**Met all** Reconciliation is complete. Of the reports submitted by licensees to the CNSC, 93% were received within the regulatory timeline.

A brief description of the main types of compliance activities conducted by the CNSC follows in the information box below.

Core Activities

The majority of the CNSC's work involves undertaking licensing and compliance activities in a risk-informed fashion, to ensure that licensees meet regulatory requirements set out in regulations and in their licences. This requires maintaining an adequate level of regulatory vigilance and being prepared to react according to credible information received.

Much of the compliance work is in the form of various types of inspections.

- **Type I** inspections are systematic and documented processes – similar to audits or program evaluations — to determine, through objective evidence, if licensee programs, processes or practices comply with regulatory requirements.
- **Type II** inspections are planned and documented activities to verify the results of licensee processes, not the processes themselves. They are typically routine (item-by-item) inspections and rounds, usually of specified equipment, facility material systems, or of discrete records, products or outputs from licensee processes.
- **Desktop reviews** are the CNSC staff analyses of compliance reports submitted by licensees, in order to evaluate if licensees are complying with the regulatory requirements.

Typically, in a fiscal year, the CNSC will undertake approximately 50 **Type I** inspections, 1,800 **Type II** inspections and numerous **desktop reviews**.

Performance Summary and Analysis of Program Activity

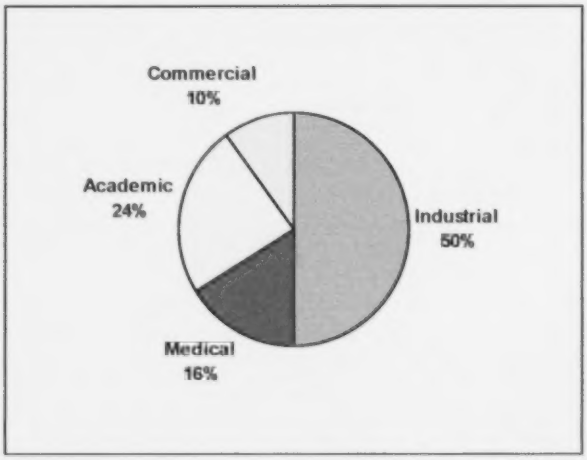
- The CNSC conducted nearly 2,000 compliance inspections and managed close to 3,300 licences to ensure oversight of nuclear facilities. The CNSC also made further progress in developing its Sealed Source Tracking System, which tracks and regulates radioactive sources on the cradle-to-grave principle to include import/export controls. The CNSC continues to maintain its reporting commitments to the IAEA in a timely fashion.

- The CNSC has qualified inspectors at all nuclear power plant sites and at offices located in Calgary, Mississauga, Ottawa and Laval. These inspectors conduct compliance inspections on the large number of licensees spread across the country. In this way, CNSC inspectors can not only conduct inspections, but also respond promptly to incidents, complaints and emergencies – or take enforcement measures with non-compliant licensees as necessary.

- At nuclear power plants, the CNSC performed two Type I inspections (audits of licensee programs) and 44 Type II inspections (assessments of programs' effectiveness in meeting their safety performance objectives). See the section "Program Activity: Licensing and Certification" above for additional regulatory oversight details.

- The following figure shows that, in 2010–11, CNSC inspectors in the nuclear substances directorate conducted 1,712 inspections of CNSC-licensed locations, 50 percent in the industrial sector, 24 percent in the academic sector, 16 percent in the medical sector and 10

percent in the commercial sector. Most licensees were found to be in full compliance with their regulatory requirements.



In 2010–11, the CNSC conducted a total of 1,712 inspections in areas related to nuclear substances.

- In addition, the CNSC reviewed close to 2,600 annual compliance reports provided by licensees. These reports contained detailed information on licensees' operations over the course of the previous year. Information reviewed by CNSC staff in annual compliance reports included statistics on occupational exposure to workers handling radioactive material.

- The CNSC issued eight orders to licensees who use nuclear substances, issued four requests or notices to licensees and laid charges against one licensee. A Canadian was found guilty and sentenced to jail for the attempted export of controlled nuclear equipment to Iran without authorization from the CNSC. The individual was also convicted of eight other offences under other federal legislation, including the first conviction under the *United Nations Act* in relation to the *Regulations Implementing the United Nations Resolutions on Iran*. This was the first successful prosecution under the *Nuclear Safety and Control Act*.

- The CNSC also decertified two Exposure Device Operators and one exposure device.

- In its regulatory role regarding uranium mining and processing in Canada, the CNSC conducted 26 inspections at Canadian uranium mines and mills in 2010–11, all of which are located in Saskatchewan. The three operating sites – Key Lake, Rabbit Lake, and McArthur River – were inspected an average of six times, while the McClean Lake Operation, shut down for maintenance, was inspected three times. Cigar Lake, currently under construction, was inspected five times. As in other years, our inspectors worked closely with provincial inspectors from Saskatchewan Labour and Saskatchewan Environment to monitor licensees' occupational health and safety programs, including radiation protection. Personal dose records for operating mines and mills from 2006 to 2010 show that radiation doses to workers were well below regulatory limits.

- In January 2011, Cameco Corporation informed the CNSC that a ship transporting uranium concentrate, commonly called yellowcake, had encountered extremely rough seas in the Pacific. This resulted in damage to some of the shipping containers in the cargo hold. As a precaution, Cameco requested that the ship travel back to British Columbia for further investigation and inspection.

- Given the properties of uranium concentrate and the precautions that had been taken during transportation, the CNSC determined that the risk to the ship's crew, the response team and the vessel itself was low. All the uranium remained sealed off in one of the ship's cargo holds, protecting both the crew and the environment pending the cleanup. The CNSC sent a team to inspect the vessel and to monitor Cameco's response team, assuring that adequate provisions were being taken to protect the health and safety of the workers, the public and the environment during the cleanup.

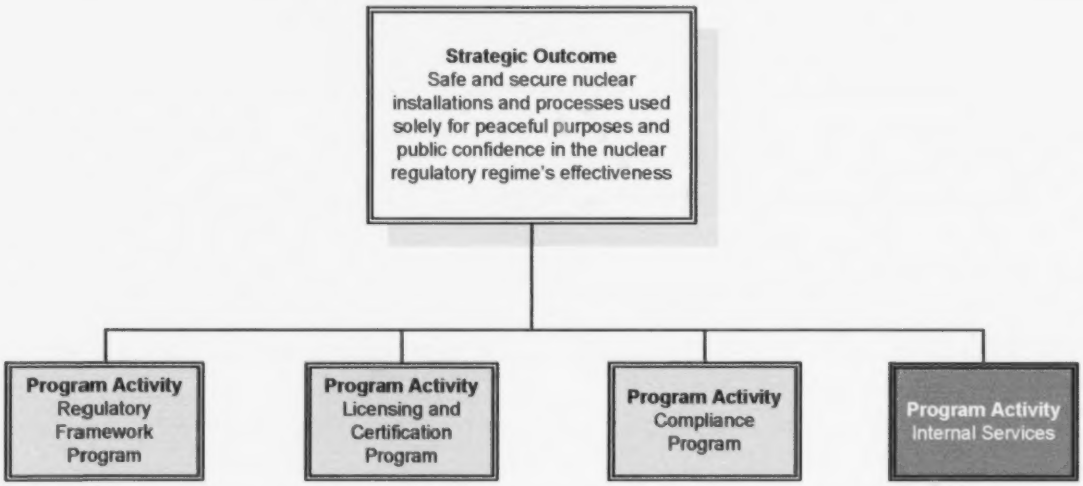
Lessons Learned

The CNSC continually engages in discussions with international nuclear regulators to exchange lessons learned from their compliance programs and develop best practices. Compliance programs from other nuclear regulators (such as the United States' Nuclear Regulatory Commission) are also regularly considered to gauge potential effectiveness. Nationally, the CNSC enters into arrangements with provincial authorities to effectively facilitate cooperation between mining regulators. A good example of this collaboration is the coordinated approach to the regulation of uranium mines and mills in Saskatchewan, whereby, through a memorandum of understanding, federal and provincial authorities work together to minimize duplication while ensuring that all regulatory requirements are verified.

Compliance – The Bottom Line

The CNSC can assure Canadians that its licensees are operating safely and securely in compliance with their licences, certificates, regulations, and underlying legislation, as well as with international obligations and bilateral agreements, and that exports of nuclear substances, equipment and technology are used for peaceful purposes only.
No compromise.

Program Activity: Internal Services


Strategic Outcome
Safe and secure nuclear installations and processes used solely for peaceful purposes and public confidence in the nuclear regulatory regime's effectiveness
Program Activity
Regulatory Framework Program
Program Activity
Licensing and Certification Program
Program Activity
Compliance Program
Program Activity
Internal Services

Program Activity Description

Expected results: Activities and resources administered to support the needs of programs and other corporate obligations.

Internal services are activities and resources that apply across the organization to directly and indirectly support program delivery and meet other corporate obligations of the CNSC, as an agency of government.

These activities cover: management and oversight (including audits and evaluations), communications, legal services, human resources management, financial management, information management, information technology, real property and materiel acquisition, travel and other administrative services.

Program Activity: Internal Services					
2010–11 Financial resources ($ thousands)			**2010–11 Human Resources (full-time equivalents (FTEs))**		
Planned spending	**Total authorities**	**Actual spending[1]**	**Planned**	**Actual**	**Difference**
44,438	46,091	45,966	242	233	(9)

[1] Includes both Internal Services spending and the CNSC's capital spending ($7.4 million for the modernizing of federal laboratories and for IT investments) applicable to all program activities.

Performance Summary and Analysis of Program Activity

- In the past year, the CNSC successfully introduced a new costing methodology used in the establishment of licensing fees, following consultation with CNSC licensees who constitute the Cost Recovery Advisory Group (CRAG). This new methodology provides a greater financial predictability to both the CNSC and the licensees and strengthens the CNSC cost distribution model. The CNSC is currently streamlining processes as a result of the new costing methodology. The CNSC is also putting in place systems for improved planning, monitoring and reporting for its fee-exempt activities and expenditures.

- In 2010–11, the CNSC human resources strategy shifted to focus on retention and training. The CNSC orientation program for new employees was reviewed, updated and launched, along with lunch-and-learn sessions for all employees. New technical training courses were developed and the standardized Inspector Training and Qualification Program (ITQP) was delivered to ensure that CNSC inspectors have the knowledge, hands-on skills and experience they need to work with licensees and facilities in their specific lines of business.

- In our efforts to retain top talent and prepare for potential retirements, we focused on succession planning for all management positions and began identifying critical positions within the CNSC.

- The CNSC is proud to report that in 2010–11, it was selected as one of the National Capital Region's Top 25 Employers. To seek feedback and make continuous improvements to our workplace, the CNSC launched a series of employee pulse surveys.

- Throughout 2010–11, the CNSC continued work on the development of an integrated system to capture and manage regulatory action items. This action tracking solution integrates key regulatory information, supporting licensing and compliance activities across the organization.

- Improvements to the CNSC's Web presence were implemented throughout 2010–11, such as interactive maps and multimedia resources. Other projects, focused on the development of Web-based systems for licensees to interact with the CNSC, progressed throughout the year, with planned completion in 2011–12.

- The CPMRS, a system launched in 2010–11, provides the CNSC with a robust solution for corporate and financial reporting, and a technical infrastructure that can be leveraged for future reporting needs.

- In 2010–11, as an integral part of the CNSC's Harmonized Plan, the CNSC continued to review and institute service improvements to enhance delivery to program managers. The corporate policy suite was reviewed as per the established three-year policy plan. Policy instruments were simplified and consolidated where feasible and, where required, new policy instruments were introduced throughout the year, all in an effort to reduce the complexity of rules.

Lessons Learned

The CNSC has made good progress in increasing efficiencies through investments in planning, monitoring and reporting systems.

In 2010–11, the CNSC operated under a full RSA-funding regime. The RSA experience has been a positive one as it provides the CNSC with the required resources to respond to the industry in a timely manner. As we continue to evolve, our costing methodology may require adjustments. On the information technology front, the CNSC will continue to improve and leverage e-Service capabilities.

Internal Services – The Bottom Line

The Internal Services activity results in an effective and responsibly managed organization well positioned to support the achievement of the CNSC's strategic outcome.

Section III – Supplementary Information

Financial Highlights

The CNSC operates on a full accrual accounting basis according to Treasury Board's policy for reporting based on generally accepted accounting principles (GAAP). The tables below provide highlights from the CNSC's statement of financial position and statement of operations, as presented in its audited financial statements. As such, there are differences between these tables and those presented in other sections of the *Departmental Performance Report*, which are prepared on the modified cash basis of accounting. Typically the differences result from the accounting treatment of capital expenditures and accounts receivable.

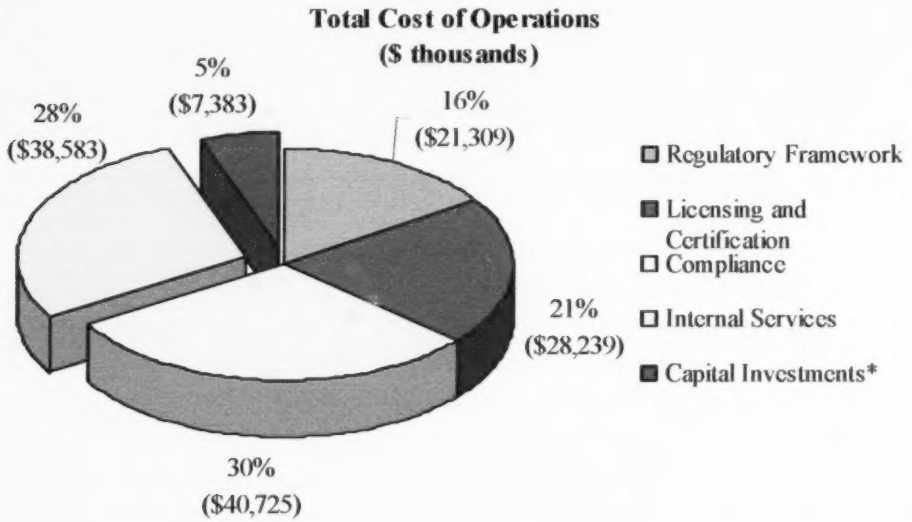
($ thousands)

Condensed Statement of Financial Position			
At End of Year (March 31, 2011)	**% Change**	**2011**	**2010**
ASSETS			
Total Assets	**1%**	46,489	46,000
TOTAL		**46,489**	**46,000**
LIABILITIES			
Total Liabilities	**7%**	54,143	50,505
EQUITY			
Total Equity	**70%**	(7,654)	(4,505)
TOTAL	**1%**	**46,489**	**46,000**

($ thousands)

Condensed Statement of Operations			
At End of Year (March 31, 2011)	**% Change**	**2011**	**2010**
EXPENSES			
Total Expenses	**2%**	146,948	143,893
REVENUES			
Total Revenues	**3%**	100,774	97,389
NET COST OF OPERATIONS	**-1%**	**46,174**	**46,504**

Financial Highlights Chart



* Includes both Internal Services spending and the CNSC's capital spending ($7.4 million for the modernizing of federal laboratories and for IT investments) applicable to all program activities.

Financial Statements

Further details on the CNSC's finances are detailed in its audited financial statements, which are published in the annual report. The CNSC's annual reports can be accessed on our Web site.

List of Supplementary Information Tables

All electronic supplementary information tables found in the *2010–11 Departmental Performance Report* can be found on the Treasury Board of Canada Secretariat Web site.

- Green Procurement
- Internal Audits and Evaluations
- Response to Parliamentary Committees and External Audits
- Sources of Respendable and Non-Respendable Revenue
- User Fees Reporting

Section IV – Other Items of Interest

External Performance Standards

Activity	Performance standard	Target	Results 2006–07	Results 2007–08	Results 2008–09	Results 2009–10	Results 2010–11
Compliance							
Verification: Upon completion of the verification activity, the CNSC will:							
Issue Type I inspection preliminary report[1]	**At the Type I inspection exit meeting**	**100%**	Not applicable	Not applicable	Not applicable	Not applicable	100%
Issue Type I inspection report[2]	**Within 60 business days**	**80%**	58%	69%	63%	53%	66%
Issue Type II inspection report	**Within 40 business days**	**80%**	90%	85%	89%	79%	88%
Issue desktop review report	**Within 60 business days**	**90%**	79%	95%	88%	99%	96%
Enforcement: upon an order being made, the CNSC will:							
Confirm, amend, revoke or replace the order (see regulatory guide G-273, *Making, Reviewing and Receiving Orders under the Nuclear Safety and Control Act*)	**Within 10 business days**	**100%**	100%	100%	100%	100%	100%
Licensing: for requests pertaining to an **existing** licence, the CNSC will:							
Screen the request for completeness and issue notification that the licensing request is / is not complete[3]	**Within 20 business days**	**90%**	97%	56%	88%	90%	100%
Issue a licensing decision when a public hearing is not required (assuming an environmental assessment under the CEA Act is not required)	**Within 80 business days**	**80%**	98%	83%	99%	94%	96%

[1] This new standard was implemented for FY 2010–11.

[2] Safety-significant findings of inspections were communicated immediately. For example, preliminary reports were provided at the inspection exit meetings. Issuance of findings in the formal report within 60 business days is administrative

[3] The screening standard does not apply to licensing and certification activities that are related to nuclear substances, radiation devices, Class II facilities, particle accelerators, prescribed equipment, transport and packaging.

Activity	Performance standard	Target	Results 2006–07	Results 2007–08	Results 2008–09	Results 2009–10	Results 2010–11
Issue a licensing decision when a public hearing is required (assuming an environmental assessment under the CEA Act is not required) (see INFO-0715, *Canadian Nuclear Safety Commission Public Hearings on Licensing Matters*)[1]	**Within 160 business days**	**90%**	83%	100%	85%	100%	100%
Access to Information							
Respond to requests under the *Access to Information Act* (ATI) and *Privacy Act*	Within legislated time periods as stated in the acts	100%	ATI – 82% Privacy – 100%	ATI – 61% Privacy – 100%	ATI – 74% Privacy – 83%	ATI – 75% Privacy – 100%	ATI – 72% Privacy – 100%
External Communication							
Place public hearings advertisements	Within deadlines stipulated in the regulations	100%	100%	100%	100%	100%	100%
Response time to public inquiries	Same-day acknowledgement, with response time for completion of request depending upon complexity:	100%	100%	100%	100%	100%	100%
	Low – same day	100%	100%	100%	100%	100%	100%
	Medium – within 5 business days	100%	95%	95%	95%	95%	95%
	High – within 10 business days	100%	75%	80%	85%	85%	85%

[1] The hearing process does not apply to licensing and certification activities that are related to nuclear substances, radiation devices, Class II facilities, prescribed equipment, transport and packaging. INFO-0715 is available at nuclearsafety.gc.ca

The CNSC's Regulatory Plan

List of Regulatory Framework Projects Published/Completed FY 10/11

Regulatory instrument	Published/completed
Control of the Export and Import of Risk-Significant Radioactive Sources (INFO-0791)	April 29, 2010
Design Guide for Nuclear Substance Laboratories and Nuclear Medicine Rooms (GD-52)	May 18, 2010
Designing and Implementing a Bioassay Program (GD-150)	May 18, 2010
Amendments to the Nuclear Non-proliferation Import and Export Control Regulations	Published in the *Canada Gazette*, Part II on May 26, 2010
Amendments to the Class II Nuclear Facilities and Prescribed Equipment Regulations	Published in the *Canada Gazette*, Part II on May 26, 2010
Amendments to Certain Regulations Made Under the Nuclear Safety and Control Act (Miscellaneous Program)	Published in the *Canada Gazette*, Part II on May 26, 2010
Accounting and Reporting of Nuclear Material (RD-336)	June 29, 2010
Guidance for Accounting and Reporting of Nuclear Material (GD-336)	June 30, 2010
Management of Uranium Mine Waste Rock and Mill Tailings (DIS-10-01)	July 2010 (end of public consultation)
Licensing Process for New Uranium Mines and Mills in Canada, Revision 1 (INFO-0759)	August 16, 2010
Licence Application Guide – Radiography (RD/GD-120)	November 8, 2010
Application Guide – Certification of Radiation Devices or Class II Prescribed Equipment (RD/GD-254)	December 10, 2010
Nuclear Criticality Safety (RD-327)	December 12, 2010
Guidance for Nuclear Criticality Safety (GD-327)	December 12, 2010
Criteria for Explosive Substance Detection, X-ray Imaging, and Metal Detection Devices at High-Security Sites (RD-361)	December 23, 2010
Criteria for Physical Protection Systems and Devices at High-Security Sites (RD-321)	December 23, 2010

List of Approved Adjustments to FY 2010–11 Regulatory Framework Projects

Project	FY 2010–11 quarter Management Committee approval	Revised target
Licence Application Guide – Isotope production accelerators (RD/GD-289)	Q2	On hold
Aging Management for Nuclear Power Plants (RD-334)	Q2	Q1, FY 2011–12
Guidance for Aging Management for Nuclear Power Plants (GD-334)	Q2	On hold
Life Management of Nuclear Power Plants, Revision 1 (RD-360)	Q2	Q2, FY 2011–12
Guide to Life Management of Nuclear Power Plants (GD-360)	Q2	Q2, FY 2011–12
Design Requirements for Fixed Gamma Radiography Enclosures (RD-342)	Q2	Q3, FY 2011–12
Licence Application Guide – Distribution of Nuclear Substances and Radiation Devices (RD/GD-230)	Q3	Q1, FY 2011–12
Licence Application Guide: Licence to Prepare a Site for Class IA Reactors with Thermal Output Greater then 5 MW (GD-368)	Q3	Q3, FY 2011–12
Consolidation of 10 Licence Applications Guides into a single document (GD-230)	Q3	Q1, FY 2011–12

List of FY 2010-11 Regulatory Framework Projects That Slipped

Project	Revised publication date
Licence Application Guide – Servicing Class II Prescribed Equipment (RD/GD-207)	Q1, FY 2011–12
Licence Application Guide – Licence to Construct a Nuclear Power Plant (RD/GD-369)	Q2, FY 2011–12
Regulations Amending the Packaging and Transport of Nuclear Substances Regulations (Interim exemptions)	Q2, FY 2011–12
Guidance on Applying for Licences for Radiation Therapy (GD-366)	Q4, FY 2011–12
Licence Application Guide – Manual Brachytherapy (GD-235)	Q3, FY 2012–13

Other Items of Interest

The following items of interest are available online.

- Nuclear Power Industry Safety Performance Reports and Report Cards
- Integrated Regulatory Review Service (IRRS)